PUBLISHED

UNITED STATES COURT OF APPEALS

FOR THE FOURTH CIRCUIT

UNITED STATES OF AMERICA,
Plaintiff-Appellee,

v.

PATRICK LEROY CRISP,
Defendant-Appellant.

No. 01-4953

Appeal from the United States District Court
for the Middle District of North Carolina, at Durham.
William L. Osteen, District Judge.
(CR-01-236)

Argued: December 6, 2002

Decided: March 31, 2003

Before WILKINS, Chief Judge, and MICHAEL and KING, Circuit Judges.

Affirmed by published opinion. Judge King wrote the majority opinion, in which Chief Judge Wilkins joined. Judge Michael wrote a dissenting opinion.

COUNSEL

ARGUED: John A. Dusenbury, Jr., Assistant Federal Public Defender, Greensboro, North Carolina, for Appellant. Douglas Cannon, Assistant United States Attorney, Greensboro, North Carolina, for Appellee. **ON BRIEF:** Louis C. Allen, III, Federal Public Defender, Greensboro, North Carolina, for Appellant. Anna Mills

Wagoner, United States Attorney, Greensboro, North Carolina, for Appellee.

OPINION

KING, Circuit Judge:

Patrick Leroy Crisp appeals multiple convictions arising from an armed bank robbery carried out in Durham, North Carolina, on June 13, 2001. Crisp maintains that his trial was tainted by the Government's presentation of inadmissible expert testimony. His appeal presents a single question: whether the disciplines of forensic fingerprint analysis and forensic handwriting analysis satisfy the criteria for expert opinion testimony under *Daubert v. Merrill Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993). As explained below, the prosecution's fingerprint and handwriting evidence was properly admitted, and we affirm the convictions.

I.

At approximately 12:25 p.m. on June 13, 2001, a lone male, wearing a mask and surgical gloves, and carrying a handgun, entered the Central Carolina Bank in Durham, North Carolina. He approached Joan Adams, a teller, threw a bag on the counter, and instructed her to "fill up the god*mned f***ing bag." Adams promptly gave the gunman the sum of $7,854 in cash, which included bait bills and an electronic tracking device. Then, a horn sounded twice from the parking lot outside, and the robber left the bank and made his getaway in a purple Ford Probe automobile.

Shortly thereafter, Durham police officer Michael Britton heard radio traffic stating that a purple Ford Probe was involved in a bank robbery. Driving on Faison Road, he observed a purple Ford Probe parked on the wrong side of the street. Officer Britton immediately secured the vehicle, and he later learned that it had been stolen the previous day.

The next day, June 14, 2001, the authorities received a call on its Crimestoppers telephone line from an individual who claimed to have

information about the robbery of the Central Carolina Bank. The caller provided detailed information, and later that day the police met the caller, Michael Mitchell, at a local restaurant. Mitchell informed the officers that Patrick Crisp and Lamont Torain had robbed the bank. He further attested that Crisp and Torain had attempted to recruit him to participate in the robbery, but that he had declined. Mitchell explained that Crisp had detailed the entire robbery plan to him. On the basis of Mitchell's information, the police obtained an arrest warrant for Crisp.

On June 15, 2001, Crisp, while driving a rented Pontiac Grand Am with Mitchell as a passenger, came upon a police license checkpoint. Crisp was unable to produce a valid driver's license, and he advised the officers that his name was Jermaine Jackson. A small amount of marijuana was found in the vehicle. While Crisp was being interviewed, Mitchell informed the police of Crisp's real identity, and the officers promptly learned of the outstanding warrant for Crisp's arrest. Crisp was then taken into custody.

Torain was also arrested, and he was incarcerated in the same jail as Crisp. On June 20, 2001, as he walked past Crisp's cell, a handwritten note (the "Note") was slid out from under Crisp's door. The Note, the last line of which was allegedly crossed out when delivered, stated:

> Lamont
>
> You know if you don't help me I am going to get life in prison, and you ain't going to get nothing. Really it's over for me if you don't change what you told them.
>
> Tell them I picked you up down the street in Kathy's car. Tell them that I don't drive the Probe. Tell them Mike drove the Probe. He is the one that told on us. Tell them the gun and all that shit was Mike's. That is what I am going to tell them tommorow [sic].
>
> ~~Tell the Feds Mike drove you away from the bank.~~
>
> Patrick.

During the investigation of the robbery, Crisp's girlfriend, Katherine Bell, gave police officers consent to search both her residence in Hillsborough, North Carolina, and her car, a white Ford Escort. The officers found surgical gloves in the vehicle, and in her bedroom they discovered a bullet proof vest and a sawed-off shotgun. In the course of the investigation, the officers obtained palmprints and handwriting exemplars from Crisp.

Both Mitchell and Torain testified against Crisp at Crisp's trial, which was conducted from September 10 through September 13, 2001, in Winston-Salem, North Carolina.[1] Mitchell testified, *inter alia*, that on June 11, 2001, Crisp told him he needed to make some quick money and that he planned to rob a bank. Mitchell told the jury that Crisp then took him to the Central Carolina Bank, informed him that he (Crisp) and Lamont Torain were going to rob it, and asked if Mitchell would participate. The following day, Mitchell, Crisp, and Torain discussed the robbery plan in further detail. Crisp showed Mitchell a bullet proof vest, a sawed-off shotgun, an automatic weapon, a mask, and clothing, all of which Crisp and Torain intended to use in the bank robbery. Mitchell further testified that Crisp had shown him the purple Ford Probe. According to Mitchell, the initial plan was that he and Torain would enter the bank, and Crisp would drive the getaway vehicle. The following morning, however, when Torain came to pick up Mitchell for the robbery, Mitchell begged off, explaining that he had to babysit his children.

Torain described to the jury a slightly different set of events. He asserted that it was Mitchell and Crisp who planned the robbery, and that, originally, it was he who was to drive the getaway vehicle. According to Torain, when Mitchell refused to participate, the plan changed: Torain entered the bank, while Crisp waited in the getaway car.

At trial, Mary Katherine Brannan, a fingerprint expert with the North Carolina State Bureau of Investigation ("SBI"), testified that Crisp's right palm had produced a latent print that had subsequently been recovered from the Note. Furthermore, a handwriting expert,

[1]The credibility of both Mitchell and Torain was substantially impeached.

Special Agent Thomas Currin, a "questioned document analyst" with the SBI, testified that Crisp had authored the Note.

Crisp presented an alibi defense. His cousin, Cecilia Pointer, claimed that, on the day of the robbery, her husband and Crisp came to her place of employment at approximately 12:30 p.m., and that the two men then left to submit applications at a temporary employment agency. She testified that they stopped back by her work around 1:00 p.m. or 1:15 p.m.

After the four-day jury trial, Crisp was found guilty of bank robbery, bank robbery with a dangerous weapon, and brandishing a firearm during and in relation to the bank robbery. On November 27, 2001, he received a sentence of 356 months of imprisonment and five years of supervised release. His notice of appeal was timely filed on November 27, 2001, and we possess jurisdiction pursuant to 28 U.S.C. § 1291.

II.

Fingerprint and handwriting analysis have long been recognized by the courts as sound methods for making reliable identifications. *See, e.g.*, *Piquett v. United States*, 81 F.2d 75, 81 (7th Cir. 1936) (fingerprints); *Robinson v. Mandell*, 20 F. Cas. 1027 (D. Mass. 1868) (handwriting). Today, however, Crisp challenges the district court's decisions to permit experts in those fields to testify on behalf of the prosecution. The fingerprinting expert, Brannan, gave her opinion that a palm print lifted from the Note was that of Crisp; the handwriting expert, Currin, testified that, in his judgment, the handwriting on the Note matched Crisp's handwriting. We review for abuse of discretion a district court's decision to admit or reject expert testimony. *General Elec. Co. v. Joiner*, 522 U.S. 136, 139 (1997); *see also Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 152 (1999) ("[T]he trial judge must have considerable leeway in deciding in a particular case how to go about determining whether particular expert testimony is reliable.").

The Federal Rules of Evidence provide that "[i]f scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness

qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise . . . ." Fed. R. Evid. 702. The Supreme Court has made clear that it is the trial court's duty to play a gatekeeping function in deciding whether to admit expert testimony: "[T]he trial judge must ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable." *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 589 (1993).

In *Daubert*, the Court announced five factors that may be used in assessing the relevancy and reliability of expert testimony: (1) whether the particular scientific theory "can be (and has been) tested"; (2) whether the theory "has been subjected to peer review and publication"; (3) the "known or potential rate of error"; (4) the "existence and maintenance of standards controlling the technique's operation"; and (5) whether the technique has achieved "general acceptance" in the relevant scientific or expert community. *Id.* at 593-94. Rather than providing a definitive or exhaustive list, *Daubert* merely illustrates the types of factors that will "bear on the inquiry." *Id.* As *Daubert* emphasized, the analysis must be "a flexible one." *Id.*; *see also Kumho*, 526 U.S. at 141-42 (concluding that testing of reliability should be flexible and that *Daubert*'s five factors neither necessarily nor exclusively apply to every expert).

A.

We turn first to whether the fingerprint evidence was properly admitted against Crisp. Crisp has challenged the admission of this evidence on several grounds: His primary contention is that the premises underlying fingerprinting evidence have not been adequately tested. Crisp also maintains that there is no known rate of error for latent fingerprint identifications, that fingerprint examiners operate without a uniform threshold of certainty required for a positive identification, and that fingerprint evidence has not achieved general acceptance in the relevant scientific community.

1.

Fingerprint identification has been admissible as reliable evidence in criminal trials in this country since at least 1911. *See People v. Jen-*

nings, 96 N.E. 1077 (Ill. 1911); *see also* Jennifer L. Mnookin, *Fingerprint Evidence in an Age of DNA Profiling*, 67 Brooklyn L. Rev. 13 (2001) (discussing history of fingerprint identification evidence). While we have not definitively assessed the admissibility of expert fingerprint identifications in the post-*Daubert* era,[2] every Circuit that has done so has found such evidence admissible. *See United States v. Hernandez*, 299 F.3d 984 (8th Cir. 2002) (concluding that fingerprint identification satisfies *Daubert*); *United States v. Havvard*, 260 F.3d 597, 601 (7th Cir. 2001) (same); *United States v. Sherwood*, 98 F.3d 402, 408 (9th Cir. 1996) (noting defendant's acknowledgment that "fingerprint comparison has been subjected to peer review and publication," and holding that trial court did not commit clear error where it admitted fingerprint evidence without performing *Daubert* analysis); *see also United States v. Llera Plaza*, 188 F. Supp. 2d 549, 572-73 (E.D. Pa. 2002) (discussing long history of latent fingerprint evidence in criminal proceedings, and citing lack of proof of its unreliability, to hold such evidence admissible); *United States v. Joseph*, 2001 WL 515213, *1 (E.D. La. May 14, 2001) (observing that "fingerprint analysis has been tested and proven to be a reliable science over decades of use for judicial purposes"); *United States v. Martinez-Cintron*, 136 F. Supp. 2d 17, 20 (D.P.R. 2001) (noting that questions of reliability of fingerprint identifications can be addressed through vigorous cross-examination of expert witness).

Upholding a district court's admission of fingerprint evidence, the Seventh Circuit emphasized in *Havvard* that the district court "properly considered the *Daubert* factors in analyzing [the defendant's] motion and concluded that fingerprinting techniques have been tested in the adversarial system, that individual results are routinely subjected to peer review for verification, and that the probability of error is exceptionally low." 260 F.3d at 601. As here, the defendant in *Havvard* contended that "fingerprint comparisons are not reliable because the government admits that the basic premise that all fingerprints are

[2]In *United States v. Rogers*, 2001 WL 1635494 (4th Cir. Dec. 20, 2001) (unpublished), we upheld the admissibility of fingerprint evidence. We observed both that the Government's expert had "testified to the existence of numerous studies" supporting the proposition that all fingerprints are unique, and that the defendant was unable to cite any "evidence suggesting that fingerprint evidence is unreliable." *Id.* at *1.

unique remains unproven, and because there are no objective standards for defining how much of a latent fingerprint is necessary to conduct a comparison or for evaluating an individual examiner's comparison." *Id.* at 600. The defendant further maintained that the district court erred in requiring him to offer some basis on which to find fingerprint analysis unreliable. *Id.* The *Havvard* court, however, properly rejected this line of argument. Emphasizing that general acceptance remains an important consideration under *Daubert*, the Seventh Circuit concluded that the district court properly recognized that "establishing the reliability of fingerprint analysis was made easier by its 100 years of successful use in criminal trials, and appropriately noted that nothing presented at the hearing undermined [the expert's] testimony." *Id.* at 600-01.

2.

In his challenge to the admissibility of the fingerprint evidence, Crisp begins with the contention that the basic premises underlying fingerprint identification have not been subjected to adequate testing. The two premises that he singles out as requiring more searching scrutiny are: (1) that no two persons share the same fingerprint; and (2) that fingerprint examiners are able to make reliable identifications on the basis of small, distorted latent fingerprint fragments. In support of his assertions, Crisp notes that the expert in this case, Brannan, was unable to reference any study establishing that no two persons share the same fingerprint; she was able only to testify that no study had ever proven this premise false. In addition, Crisp contends that the Government itself seems unsure of the reliability of fingerprint evidence: in particular, Crisp notes that the National Institute of Justice, an arm of the Department of Justice, issued a solicitation for fingerprint validation studies in March of 2000. This solicitation calls for "basic research to determine the scientific validity of individuality in friction ridge examination," and also seeks the development of standard procedures for fingerprint comparisons and for the testing of those procedures once adopted. National Institute of Justice, *Forensic Friction Ridge (Fingerprint) Examination Validation Studies* 4 (Mar. 2000). Finally, though Crisp cites no studies demonstrating the unreliability of fingerprinting analysis, he brings to our attention two law

review articles discussing the paucity of research into the fingerprint identification process.[3]

Crisp next maintains that, because the basic premises behind fingerprint analysis have not been properly tested, there can be no established error rates.[4] He also asserts that fingerprint examiners operate without uniform, objective standards, noting that Brannan herself testified that there is no generally accepted standard regarding the number of points of identification necessary to make a positive identification. Finally, Crisp contends that, while fingerprint analysis has gained general acceptance among fingerprint examiners themselves, this factor should be discounted because, according to Crisp,

[3]*See* Margaret A. Berger, *Procedural Paradigms for Applying the Daubert Test*, 78 Minn. L. Rev. 1345, 1353 (1994) ("Considerable forensic evidence [such as fingerprinting] made its way into the courtroom without empirical validation of the underlying theory and/or its particular application."); Michael J. Saks, *Merlin and Solomon: Lessons from the Law's Formative Encounters With Forensic Identification Science*, 49 Hastings L.J. 1069, 1105-06 (1998) (noting that the first courts to recognize the validity of fingerprint analysis "invested little effort assessing the merits of the proffered scientific evidence" and observing that: "Fingerprint evidence may present courts applying *Daubert* with their most extreme dilemma. By conventional scientific standards, any serious search for evidence of the validity of fingerprint identification is going to be disappointing. Yet the intuitions that underlie fingerprint examination, and the subjective judgments on which specific case opinions are based, are powerful.").

[4]It is true that, in *Rogers*, we found fingerprinting evidence admissible in part because, in that case, "the possibility of error was mitigated . . . by having two experts independently review the evidence." 2001 WL 1635494, *1. Here, there was no such independent review. And although Brannan, the fingerprint expert, testified to achieving perfect scores on all of her proficiency tests, such tests may not in and of themselves establish a low error rate, since a fingerprint used for testing purposes may be clearer and more complete than a print harvested from a crime scene. For example, while the *Llera Plaza* court recognized that FBI experts were required to take proficiency tests, and that those experts scored highly on such tests, it observed that the tests themselves "presented little challenge, principally because . . . the latent prints in the tests were . . . of substantially greater clarity than one would normally harvest from a crime scene." 188 F. Supp. 2d at 565.

the relevant community "is devoid of financially disinterested parties such as academics." *United States v. Starzecpyzel*, 880 F. Supp. 1027, 1038 (S.D.N.Y. 1995).

3.

Crisp today advocates the wholesale exclusion of a long-accepted form of expert evidence. Such a drastic step is not required of us under *Daubert*, however, and we decline to take it. The *Daubert* decision, in adding four new factors to the traditional "general acceptance" standard for expert testimony, effectively opened the courts to a broader range of opinion evidence than was previously admissible. Although *Daubert* attempted to ensure that courts screen out "junk science," it also enabled the courts to entertain new and less conventional forms of expertise. As the Court explained, the addition of the new factors would put an end to the "wholesale exclusion [of expert testimony based on scientific innovations] under an uncompromising 'general acceptance' test." *Daubert*, 509 U.S. at 596.

The touchstones for admissibility under *Daubert* are two: reliability and relevancy. *See id.* at 589, 597; *see also Kumho*, 526 U.S. at 152 ("The objective of [*Daubert*'s gatekeeping] requirement is to ensure the reliability and relevancy of expert testimony."). Under *Daubert*, a trial judge need not expend scarce judicial resources reexamining a familiar form of expertise every time opinion evidence is offered. In fact, if a given theory or technique is "so firmly established as to have attained the status of scientific law," then it need not be examined at all, but instead may properly be subject to judicial notice. *Daubert*, 509 U.S. at 592 n.11.

While the principles underlying fingerprint identification have not attained the status of scientific law, they nonetheless bear the imprimatur of a strong general acceptance, not only in the expert community, but in the courts as well. *See Havvard*, 260 F.3d at 601 (noting lower court's observation that fingerprint analysis has enjoyed "100 years of successful use in criminal trials"); *Llera Plaza*, 188 F. Supp. 2d at 563, 572-76 (describing longstanding consensus in expert community as to reliability of fingerprint identification process in holding admissible expert fingerprint identification evidence); *see also Hernandez*, 299 F.3d at 991 (upholding admissibility of fingerprint identi-

fication evidence one year ago); *Jennings*, 96 N.E. at 1083 (upholding admissibility of fingerprint identification evidence ninety-two years ago). Put simply, Crisp has provided us no reason today to believe that this general acceptance of the principles underlying fingerprint identification has, for decades, been misplaced. Accordingly, the district court was well within its discretion in accepting at face value the consensus of the expert and judicial communities that the fingerprint identification technique is reliable.

In addition to a strong expert and judicial consensus regarding the reliability of fingerprint identification, there exist the requisite "standards controlling the technique's operation." *Daubert*, 509 U.S. at 593. As Brannan testified, while different agencies may require different degrees of correlation before permitting a positive identification, fingerprint analysts are held to a consistent "points and characteristics" approach to identification. Analysts are also consistently subjected to testing and proficiency requirements. Brannan's testimony is entirely in keeping with the conclusions of the post-*Daubert* courts that uniform standards have been established "through professional training, peer review, presentation of conflicting evidence and double checking." *Rogers*, 2001 WL 1635494, *1; *see also, e.g.*, *Llera Plaza*, 188 F. Supp. 2d at 566-71 (detailing development of identification criteria and holding that "standards which control the opining of a competent fingerprint examiner are sufficiently widely agreed upon to satisfy *Daubert* requirements"); *cf. Havvard*, 260 F.3d at 599 (holding that, while uniform standards may not exist, "the unique nature of fingerprints is counterintuitive to the establishment of such a standard").

Furthermore, in *Havvard*, the Seventh Circuit determined that *Daubert*'s "known error rate" factor was satisfied because the expert had testified that the error rate for fingerprint comparison was "essentially zero." 260 F.3d at 599. Similarly, and significantly, Brannan testified here to a negligible error rate in fingerprint identifications.

In sum, the district court heard testimony to the effect that the expert community has consistently vouched for the reliability of the fingerprinting identification technique over the course of decades. That evidence is consistent with the findings of our sister circuits, and Crisp offers us no reason to believe that the court abused its discretion

in crediting it. The district court also heard evidence from which it was entitled to find the existence of professional standards controlling the technique's operation. Those standards provide adequate assurance of consistency among fingerprint analyses. Finally, the court heard testimony that fingerprint identification has an exceedingly low rate of error, and the court was likewise within its discretion in crediting that evidence. While Crisp may be correct that further research, more searching scholarly review, and the development of even more consistent professional standards is desirable, he has offered us no reason to reject outright a form of evidence that has so ably withstood the test of time.

Finally, even if we had a more concrete cause for concern as to the reliability of fingerprint identification, the Supreme Court emphasized in *Daubert* that "[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence." *Daubert*, 609 U.S. at 596. Ultimately, we conclude that while further research into fingerprint analysis would be welcome, "to postpone present in-court utilization of this bedrock forensic identifier pending such research would be to make the best the enemy of the good." *Llera Plaza*, 188 F. Supp. 2d at 573 (internal quotation omitted).

B.

In seeking to have his convictions vacated, Crisp also challenges the admissibility of the opinions of Currin, the handwriting expert, on grounds that are essentially identical to those on which he relied to make his case against fingerprint evidence. Crisp contends that, like fingerprinting identifications, the basic premise behind handwriting analysis is that no two persons write alike, and thus that forensic document examiners can reliably determine authorship of a particular document by comparing it with known samples. He maintains that these basic premises have not been tested, nor has an error rate been established. In addition, he asserts that handwriting experts have no numerical standards to govern their analyses and that they have not subjected themselves and their science to critical self-examination and study.

1.

While the admissibility of handwriting evidence in the post-*Daubert* world appears to be a matter of first impression for our Court, every circuit to have addressed the issue has concluded, as on the fingerprint issue, that such evidence is properly admissible. *See United States v. Jolivet*, 224 F.3d 902, 906 (8th Cir. 2000) (citing Eleventh Circuit's *Paul* decision and upholding admission of expert handwriting testimony); *United States v. Paul*, 175 F.3d 906, 911 (11th Cir. 1999) (emphasizing "flexible" nature of district court's gatekeeping function, and noting that "the ability of the jury to perform the same visual comparisons as the experts cuts against the danger of undue prejudice from the mystique attached to experts" (internal quotation omitted)); *United States v. Jones*, 107 F.3d 1147, 1161 (6th Cir. 1997) (upholding admission of expert handwriting testimony and observing that "just because the threshold for admissibility [of expert testimony] under Rule 702 has been crossed, a party is not prevented from challenging the reliability of the admitted evidence"); *United States v. Velasquez*, 64 F.3d 844 (3rd Cir. 1995) (discussing standard methodology applied by handwriting analysts, and upholding admission of expert handwriting testimony).[5]

2.

The Government's handwriting expert, Thomas Currin, had twenty-four years of experience at the North Carolina SBI. On voir dire, and then on direct examination, he explained that all questioned documents that come into the SBI are analyzed first by a "questioned document examiner"; and that the initial analysis is then reviewed by another examiner. Currin discussed several studies showing the abil-

[5]Certain district courts, however, have recently determined that handwriting analysis does not meet the *Daubert* standards. *See, e.g., United States v. Lewis*, 220 F. Supp. 2d 548, 554 (S.D. W. Va. 2002) (finding proficiency tests and peer review meaningless where the evidence showed that handwriting experts "*always* passed their proficiency tests, . . . [and that] peers *always* agreed with each others' results" (emphasis in original)); *United States v. Brewer*, 2002 WL 596365 (N.D. Ill. 2002); *United States v. Saelee*, 162 F. Supp. 2d 1097 (D. Alaska 2001); *United States v. Hines*, 55 F. Supp. 2d 62 (D. Mass. 1999).

ity of qualified document examiners to identify questioned handwriting.[6] In addition, he had passed numerous proficiency tests, consistently receiving perfect scores. Currin testified to a consistent methodology of handwriting examination and identification, and he stated that the methodology "has been used not only at the level of state crime laboratories, but [also in] federal and international crime laboratories around the world." When he was questioned regarding the standards employed in questioned document examination, Currin explained that every determination of authorship "is based on the uniqueness of [certain] similarities, and it's based on the quality and the skill and the training of the document examiner."

At trial, Currin drew the jury's attention to similarities between Crisp's known handwriting exemplars and the writing on the Note. Among the similarities that he pointed out were the overall size and spacing of the letters and words in the documents; the unique shaping of the capital letter "L" in the name "Lamont"; the spacing between the capital letter "L" and the rest of the word; a peculiar shaping to the letters "o" and "n" when used in conjunction with one another; the v-like formation of the letter "u" in the word "you"; and the shape of the letter "t," including the horizontal stroke. Currin also noted that the word "tomorrow" was misspelled in the same manner on both the known exemplar and the Note. He went on to testify that, in his opinion, Crisp had authored the Note.

3.

Our analysis of *Daubert* in the context of fingerprint identification applies with equal force here: like fingerprint analysis, handwriting comparison testimony has a long history of admissibility in the courts of this country. *See, e.g.*, *Robinson v. Mandell*, 20 F. Cas. 1027 (D. Mass. 1868). The fact that handwriting comparison analysis has achieved widespread and lasting acceptance in the expert community gives us the assurance of reliability that *Daubert* requires. Further-

[6]Rather than analyzing the ability of document examiners to correctly identify authorship, the studies to which Currin referred examined whether document examiners were more likely than lay people to identify authorship correctly. In one study, lay participants had a 38% error rate, while qualified document examiners had a 6% error rate.

more, as with expert testimony on fingerprints, the role of the handwriting expert is primarily to draw the jury's attention to similarities between a known exemplar and a contested sample. Here, Currin merely pointed out certain unique characteristics shared by the two writings. Though he opined that Crisp authored the Note in question, the jury was nonetheless left to examine the Note and decide for itself whether it agreed with the expert.

To the extent that a given handwriting analysis is flawed or flimsy, an able defense lawyer will bring that fact to the jury's attention, both through skillful cross-examination and by presenting expert testimony of his own. But in light of Crisp's failure to offer us any reason today to doubt the reliability of handwriting analysis evidence in general, we must decline to deny our courts and juries such insights as it can offer.

III.

For the foregoing reasons, we affirm the district court's evidentiary rulings, and thus we affirm the convictions of Patrick Leroy Crisp.

AFFIRMED

MICHAEL, Circuit Judge, dissenting:

The majority believes that expert testimony about fingerprint and handwriting identification is reliable because the techniques in these fields have been accepted and tested in our adversarial system over time. This belief leads the majority to excuse fingerprint and handwriting analysis from the more careful scrutiny that scientific expert testimony must now withstand under *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), before it can be admitted. In Patrick Leroy Crisp's case the government did not prove that its expert identification evidence satisfied the *Daubert* factors or that it was otherwise reliable. I respectfully dissent for that reason. In dissenting, I am not suggesting that fingerprint and handwriting evidence cannot be shown to satisfy *Daubert*. I am only making the point that the government did not establish in Crisp's case that this evidence is reliable. The government has had ten years to comply with *Daubert*. It should not be given a pass in this case.

I.

The *Daubert* case lists five factors for assessing the reliability of expert scientific testimony: (1) whether the expert's theory can be or has been tested; (2) whether the theory has withstood peer review and publication; (3) whether there is a known or potential rate of error; (4) whether standards exist for the application of the theory; and (5) whether the theory has been generally accepted by the relevant scientific community. *Daubert*, 509 U.S. at 593-94. These factors are not meant to be exclusive or necessarily dispositive. *Id.* However, when "the *Daubert* factors are reasonable measures of the [expert] testimony's reliability, the Supreme Court has instructed that the trial judge *should* consider them." *United States v. Lewis*, 220 F. Supp. 2d 548, 551 (S.D. W. Va. 2002) (citing *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 152 (1999) (emphasis added)).

The majority excuses fingerprint and handwriting analysis from any rigorous *Daubert* scrutiny because these techniques are generally accepted and have been examined for nearly one hundred years in our adversarial system of litigation. These circumstances are not sufficient to demonstrate reliability in the aftermath of *Daubert*. To say that expert evidence is reliable because it is generally accepted is to say that it is admissible under *Daubert* because it was admissible under the old rule articulated in *Frye v. United States*, 293 F. 1013, 1014 (D.C. Cir. 1923) (allowing expert evidence that had "gained general acceptance in the particular field in which it belongs"). *Frye*'s "general acceptance" rule was replaced by Fed. R. Evid. 702, which now requires expert testimony to be "the product of reliable principles and methods." *Daubert*, of course, outlines the factors that are relevant to the determination of reliability. Nothing in the Supreme Court's opinion in *Daubert* suggests that evidence that was admitted under *Frye* is grandfathered in or is free of the more exacting analysis now required. *See United States v. Saelee*, 162 F. Supp. 2d 1097, 1105 (D. Alaska 2001) ("[T]he fact that [expert] evidence has been generally accepted in the past by courts does not mean that it should be generally accepted now, after *Daubert* and *Kumho*.").

Nor is fingerprint and handwriting analysis necessarily reliable because it has been subjected to the adversarial process of litigation. In a criminal case like this one, adversarial testing simply means that

the defense lawyer cross-examines the government's expert. That, I concede, is important, but it only goes part way. In most criminal cases, particularly those in which the defendant is indigent, the defendant does not have access to an independent expert who could review the analyses and conclusions of the prosecution's expert. Simon Cole, *Suspect Identities: A History of Fingerprinting and Criminal Identification* 280 (2001) [hereinafter Cole, *Suspect Identities*] (noting that defense lawyers rarely challenge fingerprint evidence, in part because they often do not have the funds to hire experts). Lack of money is only one problem. Lack of independent crime laboratories is another. The great majority of crime laboratories are operated by law enforcement agencies. Paul C. Giannelli, *The Abuse of Scientific Evidence in Criminal Cases: The Need for Independent Crime Laboratories*, 4 Va. J. Soc. Pol'y & L. 439, 470 (1997); Paul C. Giannelli, *"Junk Science": The Criminal Cases*, 84 J. Crim. L. & Criminology 105, 118 (1993). More important, criminal defendants do not appear to have access to experts who could challenge the basic principles and methodology of fingerprint and handwriting analysis. Jennifer L. Mnookin, *Fingerprint Evidence in an Age of DNA Profiling*, 67 Brooklyn L. Rev. 13, 38-39 (2001) [hereinafter Mnookin, *Fingerprint Evidence*] (explaining that fingerprint evidence came to be seen as particularly powerful in part because it was so rarely challenged by the defense); Cole, *Suspect Identities*, *supra* at 280 (reporting that New York City police officers caught fabricating evidence chose to create fingerprint evidence because it was so unlikely to be challenged). Our adversarial system has much to commend it, but it is not a general substitute for the specific *Daubert* inquiry. The system without *Daubert* did not work to ensure the reliability of fingerprint and handwriting analysis. As I point out in parts II.B. and III *infra*, fingerprint and handwriting analysis was admitted with little judicial scrutiny for decades prior to *Daubert*.

Nothing in the history of the use of fingerprint and handwriting evidence leads me to conclude that it should be admitted without the scrutiny now required by *Daubert*. The government, of course, has the burden to put forward evidence "from which the court can determine that the proffered testimony is properly admissible" under *Daubert*. *Md. Cas. Co. v. Therm-O-Disc, Inc.*, 137 F.3d 780, 783 (4th Cir. 1998). The government utterly failed to meet its burden here.

II.

A.

At Crisp's trial the government's fingerprint identification evidence failed to satisfy any of the *Daubert* requirements for establishing scientific reliability. The first *Daubert* factor is whether the technique has been tested. The government did not offer any record of testing on the reliability of fingerprint identification. *See* J.A. 361 (testimony of the government's fingerprint expert, an employee of the North Carolina Bureau of Investigation, stating that she was not aware of any testing on the validity of the science). Indeed, it appears that there has not been sufficient critical testing to determine the scientific validity of the technique. *See United States v. Llera Plaza*, 188 F. Supp. 2d 549, 564 (E.D. Pa. 2002); Robert Epstein, *Fingerprints Meet Daubert: The Myth of Fingerprint "Science" Is Revealed*, 75 S. Cal. L. Rev. 605, 624-26 (2002); David A. Stoney, *Fingerprint Identification: The Scientific Basis of Expert Testimony on Fingerprint Identification*, *in* 3 *Modern Scientific Evidence: The Law and Science of Expert Testimony* § 27-2.0, § 27-2.1.2[6] (David L. Faigman et al. eds., 2002). Specifically, with respect to forensic fingerprint examination, there have not been any studies to establish how likely it is that partial prints taken from a crime scene will be a match for only one set of fingerprints in the world. *Stoney*, *supra* at § 27-2.3.2 ("The issue is not the finding of two fingerprints that are alike, but rather the finding of prints from two different fingers that can be mistakenly judged to be alike by a fingerprint examination."). Although the government introduced evidence that its fingerprint expert in this case had taken and passed proficiency tests, *see* J.A. 362-63, this evidence gave no basis for a conclusion that these proficiency tests reflect real world conditions. Proficiency testing is typically based on a study of prints that are far superior to those usually retrieved from a crime scene. *Llera Plaza*, 188 F. Supp. 2d at 565 (acknowledging that proficiency tests may not reflect real world conditions); *compare also Lewis*, 220 F. Supp. 2d at 554 (noting that proficiency tests are inadequate when everyone passes), *with* J.A. 362 (testimony of the government's fingerprint expert in this case, saying that she always achieved a perfect score on proficiency tests). The government did not introduce evidence of studies or testing that would show that fingerprint identification is based on reliable principles and methods.

The second *Daubert* factor is whether the science or technique has been subjected to peer review and publication. Again, the government offered no evidence on this factor at trial. Fingerprint examiners, like other forensic scientists, have their own professional publications. Epstein, *supra* at 644. But unlike typical scientific journals, the fingerprint publications do not run articles that include or prompt critique or reanalysis by other scientists. Indeed, few of the articles address the principles of fingerprint analysis and identification at all; rather, most focus on the process of lifting fingerprints from crime scenes. Epstein, *supra* at 644. This lack of critical analysis in the fingerprint identification field has had a predictable effect. Unlike traditional scientific fields where criticism and vibrant exchange of ideas have led to dramatic advances, the techniques used by fingerprint analysts have changed little over the years. Simon Cole, *What Counts for Identity? The Historical Origins of the Methodology of Latent Fingerprint Identification*, Sci. in Context, Spring 1999, at 139, 165 (noting that little change has taken place in the methodology of analyzing latent prints).

The third *Daubert* factor calls for consideration of the known or potential rate of error. The government has not tested the reliability of fingerprint identification, so it ignored the error rate factor in this case. J.A. 360 (testimony of government's expert that "[a]s far as statistics, off the top of my head at this point, I cannot give you any. I do know that . . . errors have been made in the field of fingerprints."); *see also* Epstein, *supra* at 633. Some courts have merely assumed that the rate of error in fingerprint identification is low. *See Llera Plaza*, 188 F. Supp. 2d at 566 (concluding that the absence of evidence of high error rates means that the error rate is not unacceptably high). And that may be. But an error rate must be demonstrated by reliable scientific studies, not by assumption. Nor is it sufficient after *Daubert* for a proponent simply to show that a particular fingerprint examiner scores well on proficiency tests. First, it is unclear whether the proficiency tests taken by the examiner in this case were representative of real life conditions. *Cf. Llera Plaza*, 188 F. Supp. 2d at 565 (acknowledging that proficiency tests may not reflect real world conditions). Second, where tests have attempted to imitate actual conditions, the error rates have been alarmingly high. Epstein, *supra* at 634. In a 1995 test conducted by a commercial testing service, less than half of the fingerprint examiners were able to identify correctly all of the

matches and eliminate the non-matches. On a similar test in 1998, less than sixty percent of the examiners were able to make all identifications and eliminations. *Id.* at 634-35. An error rate that runs remarkably close to chance can hardly be viewed as acceptable under *Daubert*.

The fourth *Daubert* factor asks whether there are universal standards that govern the application of the technique. The government did not establish that there are such standards. Its expert asserted that her department had controlling standards, yet when pressed on the point, she admitted that the degree of similarity required to find that prints are matching "is left up to each individual examiner." J.A. 363. As one forensic expert contends, "[a]ny unbiased, intelligent assessment of fingerprint identification practices today reveals that there are, in reality, no standards." Stoney, *supra* § 27-2.3.1[2]. Many fingerprint examiners testify in terms of matching points, that is, the number of similarities between the ridges in the print taken from the crime scene and the ridges in the defendant's known print. But the trend has been toward eliminating any requirement for a minimum number of matching points before an opinion can be given that a latent print and a known exemplar are attributable to the same person. *See* J.A. 363 (testimony of the government's fingerprint expert that no minimum number of points is required); *Llera Plaza*, 188 F. Supp. 2d at 570 (somehow concluding that the fingerprint examination field has uniform standards because most examiners agree that no minimum number of points is required to confirm a match). The trend away from a minimum-point requirement may not be unreasonable because the requirement, although adopted by some agencies (and countries), is not based on scientific study. Epstein, *supra* at 637 (quoting a fingerprint expert as saying that the point system is based on "educated conjecture"); Cole, *Suspect Identities*, *supra* at 270 (discussing Britain's eventual rejection of the sixteen-point minimum). Examiners have not, however, been able to replace the point system with anything more concrete. Epstein, *supra* at 638-39; Cole, *Suspect Identities*, *supra* at 268-69. There is even disagreement as to what aspects of the fingerprint the examiner should rely on. One prominent expert rejects traditional reliance on ridge characteristics and calls on examiners to look at other details such as sweat pores and ridge edges. Epstein, *supra* at 639; Cole, *Suspect Identities*, *supra* at 267. Others, however, vehemently reject this approach, explaining that

variations in these particular details are especially common because of differences in pressure, residue on the fingers, the condition of the surface on which the print is left, and processing techniques. Epstein, *supra* at 639-40. All of this leads one expert to conclude that "[t]he criteria for absolute identification in fingerprint work are subjective and ill-defined. They are the product of probabilistic intuitions widely shared among fingerprint examiners, not of scientific research." Stoney, *supra* § 27-2.3.1[1]. *See also* Cole, *Suspect Identities*, *supra* at 268-69.

Further, even the safety checks that are thought to be universally accepted are not consistently followed. For example, fingerprint experts are supposed to reject as matching a pair of prints that contain even one dissimilarity. Epstein, *supra* at 640. At least one expert, however, has said that when fingerprint examiners believe the prints are a match, they explain away the differences rather than discounting the match. Epstein, *supra* at 640-41. Moreover, independent verification of a match by a second examiner is considered to be essential. *See* Cole, *Suspect Identities*, *supra* at 269; Epstein, *supra* at 641. Yet in many cases, including this one, no verification takes place. *See ante* at 9 n.4 (noting that no independent review took place in this case); Epstein, *supra* at 641; Cole, *Suspect Identities*, *supra* at 282 (explaining that an error made by Scotland Yard was attributed to the fact that independent verification did not take place); *see also* Cole, *Suspect Identities*, *supra* at 280-81 (detailing extensive fabrication of fingerprint evidence in the New York City Police Department that was not uncovered sooner in part because no independent verification took place). Moreover, any verification that does take place is not independent in the truest sense. The reviewer is usually a supervisor or colleague in a forensic lab associated with law enforcement, so the reviewer may share the same inclinations as the original examiner. *See* Cole, *Suspect Identities*, *supra* at 269.

In short, the government did not establish that there are objective standards in the fingerprint examination field to guide examiners in making their comparisons.

The fifth (and final) *Daubert* factor is whether the technique has been generally accepted in the relevant scientific community. I acknowledge, of course, that the general public, which sees movies

and television programs that regularly portray fingerprinting and other forensic techniques as key to crime solving, regards fingerprint identification as perfectly reliable. Moreover, several circuit courts since *Daubert* have held — without going deeply into the question — that fingerprint evidence is admissible. *See United States v. Hernandez*, 299 F.3d 984, 991 (8th Cir. 2002); *United States v. Havvard*, 260 F.3d 597, 601 (7th Cir. 2001); *United States v. Sherwood*, 98 F.3d 402, 408 (9th Cir. 1996). But "[t]he *Daubert* court did not suggest that acceptance by a legal, rather than a scientific community, would suffice." *United States v. Starzecpyzel*, 880 F. Supp. 1027, 1038 (S.D.N.Y. 1995). The fingerprint examination community is certainly a proponent of the technique. That community's enthusiasm, however, must be subjected to objective scrutiny if *Daubert* is to have any meaning. One author asserts that "mainstream scientists, by and large, have ignored the question of whether individuals can be reliably identified through small, distorted latent fingerprint impressions." Epstein, *supra* at 646. At least two forensic commentators have expressed concern about the lack of objective scientific research into the reliability of the technique. *Id.* Nothing in the record in this case shows that the fingerprint examination community has challenged itself sufficiently or has been challenged in any real sense by outside scientists. Accordingly, the government did not establish that the technique has valid, general acceptance in the scientific community. The fifth factor is not satisfied. The government thus failed to demonstrate in this case that fingerprint identification is reliable under the specific *Daubert* criteria.

B.

Even if the proponent of scientific expert evidence does not satisfy the *Daubert* factors, the evidence may be admissible if it is otherwise shown to be reliable. *Cf. Daubert*, 509 U.S. at 593-94; *ante* at 10. The government also failed to provide other reasons to establish that its fingerprint evidence in this case is reliable.

Fingerprint identification's long history of use does not by itself support the decision to admit it. Courts began admitting fingerprint evidence early last century with relatively little scrutiny, and later courts, relying on precedent, simply followed along. To put it bluntly, the precedent of prior admission, rather than exacting scientific scru-

tiny, led to its universal acceptance. Cole, *Suspect Identities*, *supra* at 186 ("Fingerprint evidence won acceptance without being subjected to the kind of organized skepticism and careful scrutiny that is supposed to be inflicted upon scientific and legal facts."); *id.* at 259 (noting that fingerprint evidence had became widely accepted although "latent fingerprint identification was . . . not based on scientific research at all[ ] [but] [i]nstead . . . was based on anecdote, experience, and nineteenth century statistics"); Michael J. Saks, *Merlin and Solomon: Lessons from the Law's Formative Encounters with Forensic Identification Science*, 49 Hastings L.J. 1069, 1104 (1998) (noting the lack of serious inquiry into the admissibility of fingerprint evidence in the early years). As a matter of fact, other forms of evidence in vogue at the time fingerprinting began to be commonly used were generally believed to be *more* credible. Cole, *Suspect Identities*, *supra* at 93, 146, 159. For example, experts in the Bertillon technique took minute measurements of the human body — including the bones in the face, arms, and feet, and the shape and size of the ears — to identify criminals. *Id.* at 34-44. The Bertillon system and its offshoots were widely used in France and were recognized by many states in the United States. Cole, *Suspect Identities*, *supra* at 146-49. It, like fingerprinting, was admitted as evidence in criminal cases. *See, e.g.*, *State v. Hill*, 64 P.2d 71, 75 (Kan. 1937); *see also Downs v. Swann*, 73 A. 653, 654-55 (Md. 1909) (upholding as constitutional the use of Bertillon measurements for identification purposes in a criminal case); Cole, *Suspect Identities*, *supra* at 146-47 (noting use of Bertillonage and similar systems in the United States). Today, we consider the Bertillon system to be absurd. *See People v. King*, 72 Cal. Rptr. 478, 483-84 (Cal. Ct. App. 1968) (noting that we should heed the "tragic lessons of the Bertillon system"). Fingerprinting replaced the Bertillon system. But Bertillonage did not fall out of favor because anyone demonstrated its unreliability or fingerprinting's superiority. Rather, law enforcement officials found the Bertillon system too cumbersome to use and too complicated to entrust to untrained technicians. *See* Cole, *Suspect Identities*, *supra* at 91, 93, 159. Fingerprinting, on the other hand, rose in popularity because the prints could be taken and analyzed quickly by those with little training or experience. *Id.* at 159 ("Fingerprinting, then, emerged not as a method of criminal identification superior to anthropometry [Bertillonage] but rather as a quick and cheap, supposedly less scientific

way of identifying those whose crimes did not justify the expense of anthropometry."). These advantages were seen to outweigh fingerprinting's primary drawback — that it was believed to be considerably *less* reliable than the Bertillon system. Cole, *Suspect Identities*, *supra* at 87-88, 93-94. Fingerprint identification's long history of use, therefore, does not itself establish its reliability.

Fingerprint identification may also be seen as reliable because the examination community prevents its experts from testifying to a match unless they are certain of the match. Fingerprint experts, in other words, refuse to hedge their testimony in terms of probability. 3 David L. Faigman et al., *Modern Scientific Evidence: The Law and Science of Expert Testimony* § 27-1.0, § 27-1.0 (2002 & Supp. 2003). This practice seems to have hastened the technique's acceptance by courts, who have been attracted to its seeming infallibility. Mnookin, *Fingerprint Evidence*, *supra* at 36. Professions of absolute certainty by an expert witness, however, seem out of place in today's courtroom. Even a DNA match has a small chance of being in error. Indeed, there is some suggestion that the certainty requirement for fingerprint identification is a false comfort. In one case, two prints found at a crime scene — identified with certainty by FBI experts as matching the defendant's exemplars — were sent along with the defendant's exemplars by the FBI to all fifty state crime laboratories. *See* D. Michael Risinger et al., *The Daubert/Kumho Implications of Observer Effects in Forensic Science: Hidden Problems of Expectation and Suggestion*, 90 Cal. L. Rev. 1, 41 (2002). Seven state labs found that one print could not be conclusively matched; five labs said the same about the second print. *Id.* Faced with this result that violated the tenet that no identification should be made if there was room for disagreement, the FBI sent annotated versions of the fingerprints, indicating important points of similarity, back to the twelve labs that did not find complete matches. *Id.* With time to reconsider, the initially dissenting labs changed their conclusions to support the FBI's original identification. *Id.* The amount of maneuvering it took to reach the certain match requirement in this one case raises doubts about whether this requirement can be relied upon to ensure reliability.

The history of fingerprint identification and the dogged certainty of its examiners are insufficient to show that the technique is reliable. Because of that and the government's failure to show that its finger-

printing evidence is reliable under the *Daubert* standards, I conclude that the district court's decision to admit the fingerprint evidence was an abuse of discretion. *Cf.* 3 Faigman et al., *supra* § 27-1.0 ("A judge who takes *Daubert*'s commands seriously would be hard pressed to write a coherent opinion justifying a decision to admit the expert [fingerprinting] opinion.")

III.

Handwriting identification evidence has been greeted with more skepticism by courts in the wake of *Daubert*. Some courts have refused to admit it. *See Lewis*, 220 F. Supp. 2d at 554; *Saelee*, 162 F. Supp. 2d at 1106; *see also Starzecpyzel*, 880 F. Supp. at 1028 (admitting handwriting evidence only after concluding, prior to *Kumho*, that *Daubert* did not apply, and explaining that if *Daubert* did apply, it "might well have concluded that forensic document examination constitutes precisely the sort of junk science that *Daubert* addressed"); *United States v. Hines*, 55 F. Supp. 2d 62, 68 (D. Mass. 1999) (noting that a rigorous application of the *Daubert* standards to handwriting evidence would reveal "serious problems"). Other courts have allowed testimony about the similarities between handwriting samples without permitting the expert to testify to conclusions about the authorship. *See United States v. Rutherford*, 104 F. Supp. 2d 1190, 1193 (D. Neb. 2000) (excluding testimony on the authorship of a document, although allowing uncontested evidence of the similarities and differences between two samples); *Hines*, 55 F. Supp. 2d at 63-64 (allowing admission of testimony about similarities and differences but denying admission of testimony drawing conclusions about authorship). I believe that the government's evidence on handwriting, like its evidence on fingerprinting, does not demonstrate its reliability, and the evidence should therefore have been excluded. *Cf.* Andre A. Moenssens, *Handwriting Identification Evidence in the Post-Daubert World*, 66 UMKC L. Rev. 251, 276-77 (1997) (noting that if *Daubert* factors were applied to forensic sciences, many expert opinions would no longer be admissible).

I will again run through the *Daubert* factors, considering first whether the technique of handwriting analysis has been tested. The proposition that forensic document examiners can reliably identify handwriting was not established in this case. *See Saelee*, 162 F. Supp.

2d at 1102 (noting the lack of testing); *Hines*, 55 F. Supp. 2d at 68 (concluding that handwriting has never been "subject to meaningful reliability or validity testing"). *Starzecpyzel*, 880 F. Supp. at 1036 (noting the lack of evidence to support the principle that no two people write identically). This case aside, it appears that no one has ever assessed the validity of the basic tenets of handwriting comparison, namely, that no two individuals write in precisely the same fashion and that certain characteristics of an individual's writing remain constant even when the writer attempts to disguise them. The government asserted in this case that because these premises had not been disproven, they must be true. *See* J.A. 334-35; Moenssens, *supra* at 319-20 (asserting these premises to be true but providing no evidence to support them); *cf.* Jennifer L. Mnookin, *Scripting Expertise: The History of Handwriting Identification Evidence and the Judicial Construction of Reliability*, 87 Va. L. Rev. 1723, 1806 (2001) [hereinafter Mnookin, *Scripting Expertise*] (discussing basic tenets of handwriting analysis). One researcher has attempted to compare the ability of professional examiners to identify handwriting with the ability of lay persons. *See* J.A. 332-34. Even with this study, which is discussed below, the data on handwriting analysis is "sparse, inconclusive and highly disputed." *Starzecpyzel*, 880 F. Supp. at 1037; D. Michael Risinger with Michael J. Saks, *Science and Nonscience in the Courts: Daubert Meets Handwriting Identification Expertise*, 82 Iowa L. Rev. 21, 65 (1996) [hereinafter Risinger & Saks, *Science & Nonscience*] ("Put simply, if courts trust handwriting experts to be experts, little incentive exists to advance the field's knowledge or to test its claims. And so, in the past century virtually no research of that kind has been done."). Moreover, although the government's expert here testified to his success on proficiency tests, the government provides no reason for us to believe that these tests are realistic assessments of an examiner's ability to perform the tasks required in his field. *See* J.A. 342 (testimony of the government's handwriting expert that he has always achieved a perfect score on proficiency tests); *Lewis*, 220 F. Supp. 2d at 554 (noting that proficiency tests are inadequate when everyone passes); *Saelee*, 162 F. Supp. 2d at 1102 (noting the problems with studies on the error rate of individual examiners as well as the lack of data supporting the underlying premises of the field); *see also* D. Michael Risinger, *Handwriting Identification: The Scientific Status of Handwriting Identification Expertise, in Modern Scientific Evidence*,

supra § 28-2.0, § 28-2.3.8[3] (2002 & Supp. 2003) [hereinafter Risinger, *Handwriting Identification*]. If what little the government said in this case is any indication, the premises upon which handwriting analysis is based have not been exposed to a sufficient amount of objective testing.

The next *Daubert* question is whether handwriting examination has been subjected to peer review and publication. The government did not present any evidence about peer review or critical scholarship in the field. *See, e.g.*, *Hines*, 55 F. Supp. 2d at 68 (concluding that handwriting analysis has not been subjected to meaningful peer review); *Starzecpyzel*, 880 F. Supp. at 1037 (explaining that articles on handwriting analysis are "significantly different from scholarly articles in such fields as medicine or physics, in their lack of critical scholarship"). Those within the field have failed to engage in any critical study of the basic principles and methods of handwriting analysis, and few objective outsiders have taken on this challenge. *Starzecpyzel*, 880 F. Supp. at 1038 (concluding that the literature on handwriting analysis "fails to meet the expectations of the *Daubert* court — that a competitive, unbiased community of practitioners and academics would generate increasingly valid science"); D. Michael Risinger et al., *Brave New "Post-Daubert World" — A Reply to Professor Moenssens*, 29 Seton Hall L. Rev. 405, 441 (1998) [hereinafter Risinger et al., *Reply*] ("No members of the handwriting identification community are rewarded for doing empirical testing and for examining the claims of the enterprise skeptically."); *Starzecpyzel*, 880 F. Supp. at 1038 (identifying relevant fields of science that could be expected to have an interest in document examination but concluding that experts in these fields "are either unfamiliar with forensic document examination, or are critical of the field"). This lack of critical review has hampered the advancement of methodology in the field. Indeed, the field of handwriting analysis, unlike most other technical fields, relies primarily on texts that were written fifty to one hundred years ago. J.A. 335 ("The methodology of handwriting examination, handwriting identification, is consistent with those proposed back as early as the 1900s."); *Starzecpyzel*, 880 F. Supp. at 1038 (describing "the apparent stagnation of research within the [forensic document examiner] community"). The second *Daubert* factor, peer review and publication, is not satisfied.

The next *Daubert* factor requires a look at the technique's known or potential rate of error. Under pressure from courts, handwriting analysis appears to have been subjected to more testing than fingerprint analysis. *See* Risinger, *Handwriting Identification*, *supra* § 28-2.3. In this case, however, the government failed to introduce any evidence about what the error rate might in fact be. *See* J.A. 332-33 (testimony of the government's handwriting expert discussing studies in general terms); J.A. 336 ("I would hesitate to say that it has a known rate of error . . . ."); J.A. 338 ("So I, again, would have to say that I'm not aware of any set error rate . . . ."). The testing that has been done suggests that experts, on average, do better than non-experts at avoiding false positives, that is, in identifying someone as an author who in fact is not. *See* Risinger et al., *Reply*, *supra* at 421; Risinger, *Handwriting Identification*, *supra* § 28-2.3.6[4]. On some tests, however, the best of the non-experts did as well as some of the experts. *See* Risinger et al., *Reply*, *supra* at 421. Even these modest results have been challenged. *Id.* at 423-29 (noting problems in the methodology of the testing, including motivational differences between experts and non-experts, the lack of controls to prevent sharing of answers among experts, and the lack of similarity between the test and the day-to-day work of document examiners); Risinger, *Handwriting Identification*, *supra* § 28-2.3 (discussing the tests). Moreover, other more challenging studies that more accurately reflect real world conditions show higher rates of error. One study found that as many as nine percent of document examiners misidentified a forgery as being written by the named author, and almost one-quarter of the examiners incorrectly concluded that a disguised writing was written by someone other than the true author. Risinger, *Handwriting Identification*, *supra* § 28-2.3.8[1]. The error rates in the testing that has been reported are disquieting to say the least. In any event, the government did not satisfy the third *Daubert* factor in this case.

The next *Daubert* factor focuses on whether there are standards or controls that govern the expert's analysis. In this case the government's expert asserted that handwriting examiners follow the same methodology, J.A. 335-36, but he provided no listing of objective criteria that are used to form an opinion. There does not seem to be any list of universal, objective requirements for identifying an author. J.A. 342-43; *Lewis*, 220 F. Supp. 2d at 554 (explaining that handwriting experts had no set number of similarities required to proclaim the

handwriting a match); *Saelee*, 162 F. Supp. 2d at 1104 ("The technique of comparing known writings with questioned documents appears to be entirely subjective and entirely lacking in controlling standards."); Risinger & Saks, *Science and Nonscience*, *supra* at 39 (explaining that because document examiners base their conclusions on their own empirical observations rather than publicly available data, the results are "only as good as the unexaminable personal database of the practitioner[ ] and the practitioner's not-fully-explainable method of deriving answers").

The last factor is whether the technique is generally accepted in the scientific community. The general acceptance of handwriting analysis appears to come only from those within the field. *Saelee*, 880 F. Supp. at 1104 (explaining that handwriting analysis has been generally accepted by those in the field); *Hines*, 55 F. Supp. 2d at 68 (concluding that handwriting evidence has only been generally accepted by those in the field, not by disinterested experts in other fields). And those within the field have not challenged or questioned its basic premises. More is required to meet the "general acceptance" factor. *Lewis*, 220 F. Supp. 2d at 554 (noting that general acceptance in the forensic community was insufficient to satisfy the fifth *Daubert* factor); *Starzecpyzel*, 880 F. Supp. at 1038 (discounting general acceptance among the community of forensic document examiners because it is "devoid of financially disinterested parties").

The government did not show that there are factors beyond the *Daubert* list that credibly demonstrate the reliability of handwriting evidence. Like fingerprint experts, document examiners have long been allowed to testify in judicial proceedings. *Saelee*, 162 F. Supp. 2d at 1104-05 ("Testimony from these experts has, until recently, been uncritically accepted as reliable in the courts."). But, like the case of fingerprint evidence, there is no reason to believe that long-standing use of handwriting evidence demonstrates its reliability. The testimony of handwriting experts was initially admitted into evidence because courts saw it as no less reliable than that of lay witnesses who claimed to be able to identify the writers of documents. Mnookin, *Scripting Expertise*, *supra* at 1763-64, 1784; D. Michael Risinger et al., *Exorcism of Ignorance as a Proxy for Rational Knowledge: The Lessons of Handwriting Identification "Expertise"*, 137 U. Pa. L. Rev.

731, 762 (1989). But that does not make handwriting analysis a reliable science.

Because the government has failed to demonstrate either that its handwriting evidence satisfies the *Daubert* factors or that it is otherwise reliable, I would reverse the district court's decision to admit it as an abuse of discretion. *See Starzecpyzel*, 880 F. Supp. at 1028 ("The *Daubert* hearing established that forensic document examination, which clothes itself with the trappings of science, does not rest on carefully articulated postulates, does not employ rigorous methodology, and has not convincingly documented the accuracy of its determinations.").

IV.

Because the government failed to show that its fingerprint and handwriting evidence meets *Daubert*'s requirements or is otherwise reliable, the evidence should have been excluded. The government conceded at oral argument that this evidence was necessary to prove Crisp's guilt beyond a reasonable doubt. Because the evidence was inadmissible, I would reverse Crisp's conviction. I must therefore respectfully dissent.

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Seventh Circuit Warns About Using Dual Fact / Expert Law Enforcement Testimony

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Seventh Circuit finds use of dual fact and expert law enforcement testimony was error because it was unclear which parts of the expert testimony were based on fact and expert testimony, and the trial court's failure to instruct on evaluating the opinion testimony, but the error was harmless based on overwhelming evidence of guilt, in *United States v. York* [2], 572 F.3d 415 (7th Cir. July 15, 2009) (07-2032)

Technically, under the FRE there are no pure "fact" or "expert" witnesses. Instead, the focus is on the testimony that is either factual or expert in nature. The rules recognize that the same witness can provide both types of testimony. As noted by the Advisory Committee on Rules in 2000, "it is possible for the same witness to provide both lay and expert testimony in a single case." FRE 701 ACN [3] (2000 Amendment) (emphasis added). While permissible, care must be exercised in using dual fact and expert testimony. A recent Seventh Circuit case identified concerns in using dual fact-expert testimony from the same witness - which in this instance turned out to be a harmless error.

In the case, defendant York was recorded in a conversation with informant Mitchell discussing the purchase of crack cocaine from York. When York proceeded to trial on crack cocaine distribution charges, the circuit noted the following problem in presenting the evidence of the crack sale:

> "[T]he government played the recorded conversations [of defendant York's conversations with informant Mitchell] for the jury. Though York and Mitchell seemed to speak in plain English, without any reference to drugs, the government argued that they were really conversing in the cryptic, coded language of the narcotics trade. The government called two law enforcement witnesses to interpret this drug jargon for the jury. These interpretations made clear that York and Mitchell were negotiating a drug deal, despite their words being facially benign-e.g., 'nine probably hard' meant nine ounces of crack cocaine."

York, 572 F.3d at 429.

The meaning of the code used in the recorded conversation was addressed at trial by two government witnesses. One clearly testified as an expert and confirmed the meaning of

seeming innocuous words as drug code. Another agent testified as well, FBI Agent Brown, who was one of the "primary agents handling the investigation of York and who helped execute the sting." Brown's testimony was problematic. The circuit noted that the agent's testimony:

> "explained the sting operation to the jury, described what the jurors saw as they watched the video of York meeting with Mitchell, and identified the voices in the audio recordings as Mitchell's and York's.... But the government did not use Brown solely as a fact witness. Brown had extensive experience in prior drug cases. So the government, without first formally offering Brown as an expert, asked Brown to give his opinion about the meaning of certain words and phrases that Mitchell and York used in their conversations. Brown obliged: 'half' meant half a kilo of cocaine, 'nine' meant nine ounces, 'hard' meant crack cocaine, 'soft' meant powder cocaine, 'work' meant the drug business, 'cook' meant converting powder cocaine into crack, and 'boost up' meant diluting a given quantity of cocaine into a larger volume to have more to sell."

York, 572 F.3d at 419.

After his conviction, the defendant challenged the agent's testimony. The circuit did not find the defendant's arguments compelling with regard to whether the trial judge made the proper *Daubert* [4] reliability findings for admission of expert opinion evidence under FRE 702 [5]. Neither side raised the issue at trial. The circuit noted the reasons that the testimony could be admitted as expert testimony, yet even if this had been an error, the circuit deemed that it was harmless, particularly in light of the testimony of the other witness who had been presented and qualified as an expert witness.

Undertaking a plain error analysis, based on the absence of a contemporaneous trial objection, the circuit addressed the problems inherent in the witness's "dual testimony." The circuit outlined a host of reasons why dual testimony, despite its convenience for a party, might not be advisable. These reasons included:

- **Jury Confusion:** The witness's dual role "might confuse the jury." *York*, 572 F.3d at 425 (citing *United States v. Goodwin* [6], 496 F.3d 636, 641 (7th Cir. 2007) ("We previously have held that while testimony in dual roles could be confusing, it is permissible provided that the district court takes precautions to minimize potential prejudice."); *United States v. Mansoori* [7], 304 F.3d 635, 654 (7th Cir. 2002) ("Although we have acknowledged that there is a greater danger of undue prejudice to the defendants when a witness testifies as both an expert and a fact witness, we have also indicated that a police officer may permissibly testify in both capacities." (internal citations omitted)
- **Undue Weight**: "The jury might be smitten by an expert's "aura of special reliability" and therefore give his factual testimony undue weight." *York*, 572 F.3d at 425 citing *United States v. Brown*, 7 F.3d 648, 655 (7th Cir. 1993) ("[W]e recognize that in a close case the danger of unfair prejudice may be heightened by the "aura of special reliability" that often surrounds expert testimony, and that jurors may tend to give such testimony undue weight. The danger of unfair prejudice is most serious where the expert also is an occurrence witness.") (citation omitted)
- **Expectation Of More To The Story**: "[T]he jury may unduly credit the opinion testimony of an investigating officer based on a perception that the expert was privy

> to facts about the defendant not presented at trial." *York*, 572 F.3d at 425 (quoting *United States v. Upton* [8], 512 F.3d 394, 401 (7th Cir. 2008) ("But it is precisely because an expert provides much of the structure for the jury's understanding of the drug trade that courts must be mindful when the same witness provides both lay and expert testimony. The jury may unduly credit the witness's fact testimony given his status as an expert."))

In light of these dangers, the circuit outlined three "precautions" a court might consider when faced with the prospect of allowing a witness to present both fact and expert testimony:

1. **Clarity Of Roles**: "The jury needs to know when an agent is testifying as an expert and when he is testifying as a fact witness. "The potential for prejudice in this circumstance can be addressed by means of appropriate cautionary instructions and by examination of the witness that is structured in such a way as to make clear when the witness is testifying to facts and when he is offering his opinion as an expert." *Mansoori* [7], 304 F.3d at 654.
2. **Clear Foundations**: The proponent should establish "the proper foundation for the witness's expert opinions" *United States v. Farmer* [9], 543 F.3d 363, 370-71 (7th Cir. 2008) (where witness was "undoubtedly qualified" and neither party "specifically requested that the district court evaluate" the witness's "qualifications as an expert under Rule 702" ... the court is not required to undertake the FRE 702 analysis).
3. **Opportunity For Rigorous Cross-Examination**: The trial judge should allow "the defense to rigorously cross-examine the expert about his interpretation of the drug lingo" if the expert is testifying as a dual witness. *United States v. Parra* [10], 402 F.3d 752, 759-60 (7th Cir. 2005) (because defense counsel "engaged in rigorous cross-examination of Agent Becka regarding his expertise and the substance of his testimony" admission of dual fact/expert testimony was not an error).

In assessing the record in York's case, the circuit found that the "protective steps taken ... were not the model of how to handle a witness who testifies in a dual capacity." The circuit specifically noted that it was not clear if the agent was testifying as an expert or as the case agent. The prosecution's questioning did not help much in distinguishing the expert from the fact witness role. Apparently the questions on direct were intermingled with questions based on the agent's expertise and questions about the investigation. For example, the circuit noted confusion based on the prosecutor's question based on the agent's experience in crack investigations, and asking about the investigation.

Finally, the circuit noted that the trial judge failed to instruct the jury on how it should evaluate opinion testimony from witnesses with special knowledge at the time the witness was testifying. It was not sufficient to give the instruction only at the end of trial. The preferred approach when a dual witness testifies is to explain the witness's dual role before the witness testifies "and then flag for the jury when [the witness] testifie[s] as a fact witness and when he testifie[s] as an expert." *York*, 572 F.3d at 426.

The circuit went to considerable length to explain how "things got murky" so that in examining the record it was hard to distinguish when the testimony was in an expert capacity and when it was as a fact witness. Despite these errors, they were harmless because of the overwhelming evidence that had been properly admitted against the defendant. However, the case serves as a warning to the use of dual fact and expert testimony involving law enforcement witnesses.

For other recent cases discussing dual fact/expert witnesses, consider:

- Overcoming Potential Prejudice In The Dual Fact/Expert Law Enforcement Witness [11]
- First Circuit Once Again Criticizes The Use Of Law Enforcement "Overview" Testimony [12]
- Plain Error Results In Using Dual Fact And Expert Witness [13]

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[13] http://federalevidence.com/blog/2009/february/plain-error-results-using-dual-fact-and-expert-witness

Attorney Abuses of *Daubert* Hearings: Junk Science, Junk Law, or Just Plain Obstruction?

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The U.S. Supreme Court case of *Daubert v. Merrell-Dow Pharmaceuticals* focused attention on the problem of "junk science" testimony in the courtroom, a decision that led to the emergence of the *Daubert* hearing as a pre-trial screening device for determining the reliability and relevance of expert testimony. Similar to other useful legal procedural safeguards of due process, alas, the *Daubert* hearing can be misused, as well as properly used, by attorneys bent on advocacy.

Daubert v. Merrell Dow Pharmaceuticals[1] and its successors, so-called progeny, *General Electric v. Joiner*[2] and *Kumho Tire v. Carmichael*,[3] theoretically represented attempts by the judiciary, among other goals, to raise the level of expert testimony available to the legal system and to decrease the perceived problem of "junk science" testimony[4]—a problem that was expected to increase as the complexity and specialization of science also increased. Junk science could be generally defined as scientific testimony based on idiosyncratic, invalid, or unreliable science, in which the methodologies used are not generally accepted by the relevant scientific community.[5]

Considered in concert with the Federal Rules of Evidence,[6] especially rules 702 to 705, these cases as a group constitute, in one respect, an ambitious and promising attempt to define and clarify the roles of expert witnesses, the limits and bases of expert testimony, the admissibility of the evidence on which experts rely, and similar matters. However, in practice, as attorneys and courts have become more familiar with the post-*Daubert* landscape, we have begun to see misuses as well as appropriate uses of this ruling.

Role of the Federal Rules of Evidence

Rule 702 states:

If scientific, technical or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case [Ref. 6, no. 702].

This rule may be considered in part to address the consultative function of the expert to the legal system and to stress the reliability (and by implication, relevance) criteria that should underlie that opinion.

Daubert, exhaustively analyzed elsewhere (e.g., Refs. 4, 7) and not further examined herein, among other effects, turned the law's attention to the importance of establishing the reliability (that is, repeatability) and relevance of particular expert testimony and of ensuring that the expert's training, experience, methodology, and resultant testimony pass muster to give the court the benefit of sound opinion based on sound science and sound conclusions reached by sound methodologic means. While relevance of evidence has always been a matter for preliminary judicial determination, the novel aspect of *Daubert* was the use of the gatekeeping function of the trial judges in an approach designed to prevent unreliable expert testimony.[4]

Daubert Hearings

The Supreme Court decisions spawned a potentially significant procedural event in litigation: the *Daubert* hearing, a pre-trial formal review, with written opinion by the trial court judge about the suitability of the expert's proposed testimony. Forensic and legal scholars spoke informally of expert testimony's surviving (or not surviving) a *Daubert* challenge—that is, being found to meet or not to meet the criteria for admissibility under the stated constraints.

Despite the intent to achieve the laudable goals of clarity, reliability, and relevance, the fundamental *Daubert* principles—like other ostensibly useful procedural requirements—could be misused and abused, as well as appropriately applied.

Abuses and Misuses of *Daubert* Hearings

In the following discussion one caveat is called for: We do not suggest that hearings on reliability and relevance are inherently inappropriate. *Daubert* challenges may, in fact, reflect attorneys' confidence in their own experts' views and justified suspicion of the experts' opinions on the other side. Thus, in a best-case scenario, the challenge leads to achievement of a just and favorable outcome, obviating the expense and uncertainty inherent in a trial. Moreover, when an opposing expert is proffering innovative testimony, the ethics of practice, concerns about legal malpractice, and concerns about claims of ineffective assistance of counsel may require such a challenge.

In contrast to these valid concerns, when the attorney feels that a case is weak or that the client is unattractive to potential jurors, the attorney may want to see if the opposing expert can be "knocked out of the box" from the start by a *Daubert* challenge. While this ploy poses uncertainties of its own, the effort may be economically justifiable to the retaining attorney.

Delay

The *Daubert* hearing is not unique in being subject to abuse. Many other valuable safeguards of the fundamental fairness of the legal system exist, such as insuring that a defendant is competent to stand trial before facing the rigors of the adversary system. Yet, in our experience in Massachusetts courts, a motion to invoke this useful safeguard can be

and has been used as a delaying tactic to permit the attorneys to prepare the case more thoroughly, to set the stage for a later insanity plea, or even to foster the hope that witnesses will become less sure about recalled testimony.

Similarly, a *Daubert* hearing may be requested by one side or the other—even when the relevant science is basic, established, and non-controversial—as a comparable delaying tactic designed to secure some advantage by the delay, although, as the law evolves, such challenges to established science may become less common. In our experience, challenging the use of even absolutely standard psychological testing is a common ploy in this category.

The Dry Run

By providing a picture of the expert in action under cross-examination, expert depositions commonly serve as "dry runs" for trial preparation. However, *Daubert* hearings have the advantage of providing a second opportunity to probe the expert, as well as to obtain an otherwise unavailable assessment of the trial judge's attitudes toward the case. In those jurisdictions where depositions do not occur or are not allowed in civil or criminal cases, thus depriving attorneys of the opportunity to perform a dry run of the cross-examination of the opposing expert, a *Daubert* hearing may serve the purpose of obtaining an equally valuable advance look at the opposing experts' opinions, bases, methodology, and courtroom demeanor. The resultant data can be put to very good use by the attorney in case preparation, mastery of the relevant literature, and the like.

Impeachment: Laying a Foundation

Just as moving for an unnecessary examination for competence to stand trial may aid the attorney in laying a foundation (if only in the public's mind) for a later insanity plea, moving for an unnecessary *Daubert* hearing may lay the foundation for later efforts to impeach the expert's reasoning on scientific grounds. Even if the expert's opinion is ultimately not excluded, the knowledge gained in the process (the dry run suggested in the prior section) may be helpful to the attorney in designing more effective cross-examination for trial.

Rattling the Expert

The motion for a *Daubert* hearing may constitute no more than an attempt at simple harassment of the experts, designed to shake their confidence in their own testimony by a threshold challenge to their approach, methodology, reasoning, and professional acceptance of the experts' theory of the case.

Fatigue Factors

In a related manner, a mid-testimony hearing may be attempted on a specious issue, to overextend the expert's time on the witness stand, perhaps interrupting the flow of case-related testimony that the jury hears. This approach may generate sufficient distraction

and breach of concentration in the jury to obscure the gist and impact of the expert's testimony.

Economic War

Because a *Daubert* hearing involves costs for the time and participation of the parties and assistants (e.g., stenographers), the hearing may be requested by a large, rich firm, to drive up the costs for an opposing small, poor firm and thus to discourage or render more difficult the latter's participation in the suit.

Similarly, because of cost restrictions from the client or insurers, a law firm unable or unwilling to hire its own reputable expert may be forced to put its efforts into attempting to disqualify the other side's expert through *Daubert* challenges. Theoretically, such an approach may also serve to create a record designed to refute a later claim for legal malpractice in this situation. An attorney's specious introduction of standards for reliability and relevance (that no expert could meet) in this setting may also constitute an attempt to excuse his or her failure to retain an appropriate expert.

Shooting the Messenger

A highly unusual twist in the *Daubert* question has occurred with one of us (H.B.) when an attorney hired several experts, but one of them did not present a favorable opinion after review. The attorney presented that expert's opinion to the other side in a distorted way that invited a *Daubert* challenge, which was feebly and ineffectively resisted by that attorney. The attorney then used the successful challenge to rationalize not paying the expert for work already done, based on the alleged failure of the opinion to meet the standard.

Conclusions

While *Daubert* challenges to expert testimony may ultimately succeed in elevating the scientific level of expert opinion presented to the jury, the pre-trial hearings may also serve less idealistic purposes, as described herein. Familiarity with the taxonomy we have outlined and anticipation and early recognition of the potential abuses noted may be among the keys to prevention. Educating the retaining attorney regarding the basis for responding to a *Daubert* challenge and being prepared oneself may successfully thwart the opposing attorney's attempted abuse. This education may involve a clinically knowledgeable literature search, outside consultation for the attorney-expert dyad, or helping the legal system distinguish between valid and pseudo-*Daubert* issues.

Finally, trial judges with their focus on gatekeeping may be misled by opposing attorneys in the manner described herein. The expert witness may assist the retaining attorney in crafting effective responses and in maintaining a critical perspective in a fallible justice system. Expert participation in continuing legal education represents another potentially beneficial, but underutilized, approach.

References

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3. Kumho Tire Co. Ltd. v. Carmichael, 526 U.S. 137 (1999)

4. Gutheil TG, Stein MS: Daubert-based gate keeping and psychiatric/psychological testimony in court. J Psychiatry Law 28:235–51, 2000

5. Huber P: Galileo's Revenge: Junk Science in the Courtroom. New York: Basic Books, 1991

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7. Shuman DW, Sales BD: The impact of Daubert and its progeny on the admissibility of behavioral and social science evidence. Psychol Public Policy Law 5:3–15, 1999

164 F.3d 626 (4th Cir. 1998)
UNITED STATES of America, Plaintiff-Appellee,
v.
Barry L. DARAS, Defendant-Appellant.
No. 98-4286.
United States Court of Appeals, Fourth Circuit
October 16, 1998

EXCERPTS:

Daras contends that the breath test should not have been admitted because the Government failed to present any evidence that the Intoxilyzer 5000 was a scientifically reliable device. He avers that the trial court should have required the Government to prove the scientific validity of the methodology by which the device measures blood alcohol content, using the standards for assessing the reliability of scientific evidence set forth in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 592-93, 113 S.Ct. 2786, 125 L.Ed.2d 469 (1993). But *Daubert* merely requires that the proffered scientific evidence be relevant and reliable. *Benedi*, 66 F.3d at 1384. Daras does not dispute that the evidence is relevant. Moreover, the reliability of the methodology, that is, the scientific technique by which breathalysers measure breath alcohol content, is well established. *See California v. Trombetta*, 467 U.S. 479, 489, 104 S.Ct. 2528, 81 L.Ed.2d 413 (1984) (recognizing that accuracy of Intoxilyzers has been certified by the National Highway Traffic Safety Administration (NHTSA) since 1973); *United States v. Brannon*, 146 F.3d 1194, 1196 (9th Cir.1998) (same); *United States v. Reid*, 929 F.2d 990, 994 (4th Cir.1991) (stating that breathalyser is the "best means of obtaining evidence of the breath alcohol content"). We note Daras' contention that our comment in *Reid* has no bearing on this case because it related to breathalysers in general and not specifically to the Intoxilyzer 5000. While Daras presents no reason to conclude that different breathalyser machines use a different scientific methodology, we note that the device used in *Brannon* was the same type of breathalyser used in this case, the Intoxilyzer 5000. *See Brannon*, 146 F.3d at 1195. [1] Daras further avers that the breathalyser results were inadmissable because the Government failed to comply with an allegedly assimilated Virginia statutory provision requiring proof that any breath test used by the prosecution be conducted by a person with proper training using equipment approved by the Virginia Division of Forensic Science. *See* Va.Code Ann. § 18.268.9. A federal prosecution under the Assimilative Crimes Act "assimilates state substantive law pertaining to the elements of an offense and its punishment. It does not generally adopt state procedure or rules of evidence." *See United States v. Price*, 812 F.2d 174, 175 (4th Cir.1987). Accordingly, courts have held that the failure to follow state procedures relating to the proper administration of breathalysers goes to the weight, and not the admissibility, of the test. *See Brannon*, 146 F.3d at 1196; *United States v. Sauls*, 981 F.Supp. 909, 911 (D.Md.1997).

We note alternatively, that the record in this case indicates that the Government demonstrated the reliability of the equipment and the proper administration of the test. It has already been established that the Intoxilyzer 5000 is a scientifically reliable device for measuring breath alcohol content. Further, the Government submitted into evidence a printout by the machine itself which stated that the machine had been tested and found to be accurate by the Division of Forensic Science on May 23, 1997, approximately three months prior to the date the test was conducted. Officer Grier also testified that he was a certified operator of the machine and that he tested it immediately before Daras' breath test to ensure that it was working properly at the time he administered it. Finally, Daras concedes that Grier has been properly trained to operate the machine, and identifies no error committed in the performance of the test. Accordingly, we find that the magistrate judge properly admitted and relied on the results of the breathalyser test.

Daras next challenges the admissibility of the field sobriety tests, arguing that the Government again failed to show the scientific reliability of such tests under *Daubert*. With the

exception, however, of the horizontal gaze nystagmus (HGN) test, the field sobriety tests were not scientific, as they involved no methodology but rather objective observations of an individual's performance on simple psychomotor tests. There was no need for any expert testimony regarding these tests. *See Hulse v. State*, 961 P.2d 75, 93 (Mont.1998) (recognizing that the HGN is distinguishable from other field sobriety tests because it is a scientific test). As for the HGN, we need not decide whether such tests are scientifically reliable, [2] because the results of the breathalyser, the remaining field sobriety tests, and Officer Grier's testimony were more than adequate to support Daras' conviction.